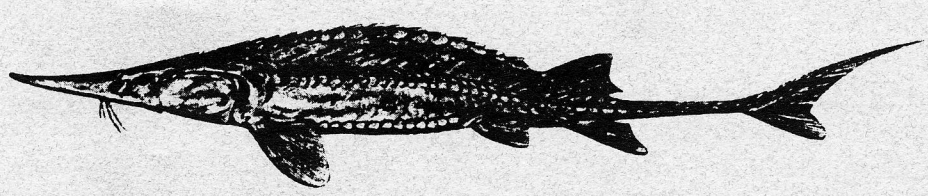


PALLID STURGEON RECOVERY UPDATE

Vol. 1, No. 1 **August, 1991** **Co-Editors: M. Dryer, S.Werdon**

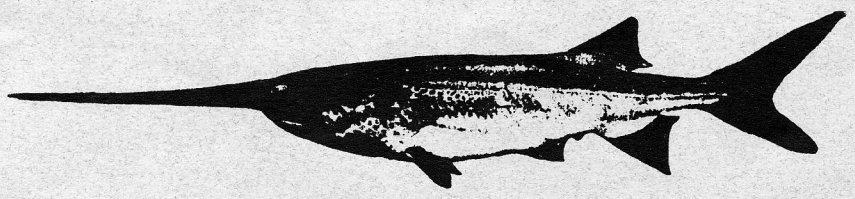
Pallid Sturgeon Recovery Update

This update and others to follow will be prepared and distributed three times each year (April, August, December) to keep all interested parties informed of pallid sturgeon recovery and associated issues. Each update will feature sections on pallid sturgeon conservation, recovery activities, and progress toward recovery tasks. If you are conducting pallid sturgeon activities and would like your work reported or updated for broad distribution, please provide a summary of your work to Mark Dryer (U.S. Fish and Wildlife Service, 1500 Capitol Ave., Bismarck, ND 58501; 701-250-4491). Prepared articles on associated issues, special interest facts, and requests for information are also welcome. Please send material in hardcopy and on disk (use Word Perfect 5.1, if possible). Disks will be returned, if requested. Newspaper articles can also be copied for incorporation in the **UPDATE**. Good communication and multi-state, federal, and public cooperation and exchange of information will be necessary for successful recovery of the pallid sturgeon. If you are not on the **PALLID STURGEON RECOVERY UPDATE** mailing list and would like to receive this publication (free of charge), please contact Mark Dryer at the above address.

A Brief Look at the Pallid Sturgeon

The pallid sturgeon, (Scaphirhynchus albus), is one of the largest fish found in the Missouri, Mississippi, and lower Yellowstone Rivers. This bottom-dwelling fish has a distinctive flattened, shovel-shaped snout. The species has experienced a dramatic decline throughout its approximately 3,500-(river)mile (5,725-kilometer) range over the past 20 years. Nearly all of the pallid sturgeon's habitat has been modified through river channelization, construction of impoundments, and related changes in flow regimes. These changes have blocked the pallid sturgeon's movements, destroyed or altered its spawning areas, reduced its food sources or its ability to obtain food, and altered water temperatures and other environmental conditions necessary for the fish's survival. Commercial fishing also has probably played a role in the decline. Another threat to the species' survival is an apparent lack of reproduction. Potential threats include water pollution, interbasin transfers of water, hybridization with the more abundant shovelnose sturgeon (Scaphirhynchus platorynchus), and continuing alteration of remaining spawning or nursery areas. (From: Endangered Species Tech. Bull. Vol. XV No. 9)

INSIDE:



Paddlefish

Pallid Sturgeon is Listed as an Endangered Species

The pallid sturgeon was added to the Federal list of threatened and endangered species on September 6, 1990. Federal protection became effective on October 9, 1990. Among the conservation benefits authorized for threatened and endangered plants and animals under the Endangered Species Act are: 1) protection from adverse effects of Federal activities; 2) restrictions on take and trafficking; 3) the requirement for the Fish and Wildlife Service (Service) to develop and carry out recovery plans; 4) the authorization to seek land purchases or exchanges for important habitat; and Federal aid to State and Commonwealth conservation departments that have approved cooperative agreements with the Service. Listing also lends greater recognition to a species' precarious status, which encourages other conservation efforts by State and local agencies, independent organizations, and concerned individuals.

Section 7 of the Act directs Federal agencies to use their legal authorities to further the purposes of the Act by carrying out conservation programs for listed species. It also requires these agencies to ensure that any actions they fund, authorize, or carryout are not likely to jeopardize the survival of any endangered or threatened species. If an agency finds that one of its activities may affect a listed species, it is required to consult with the Service on ways to avoid jeopardy.

Additional protection is authorized by Section 9 of the Act, which makes it illegal to take, possess, transport, or engage in interstate or international trafficking in listed animals except by permit for certain conservation purposes. (From: Endangered Species Tech. Bull. Vol. XV No. 9)

Hexagenia bilineata

Recovery Team Formed

By: Mark Dryer

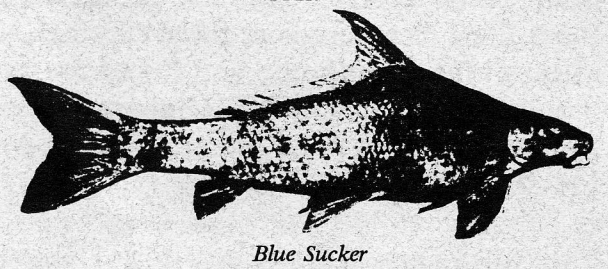
In early 1991, Galen Buterbaugh, U.S. Fish and Wildlife Service Regional Director for Region 6, formed the Pallid Sturgeon Recovery Team. Members of a Recovery Team serve at the pleasure of the Regional Director, who has lead responsibility for recovering a listed species. Although the role of the Recovery Team is strictly advisory in nature, the Team's recommendations normally guide the Fish and Wildlife Service (Service) and other Federal agencies in recovery activities. Members named to the Team are **Mark Dryer** (Team Leader), Fish and Wildlife Enhancement Office of the Service in Bismarck, ND; **Al Sandvol**, Fishery Assistance Office of the Service in Bismarck, ND; **Mark Harberg** of the U.S. Army Corps of Engineers in Omaha, NE; **Pat Clancey** of the Montana Department of Fish, Wildlife and Parks in Ft. Peck, MT; **James Riis** of the South Dakota Game, Fish and Parks Department in Pierre, SD; **Kim Graham** of the Missouri Department of Conservation in Columbia, MO; **Bobby Reed** of the Louisiana Department of Wildlife and Fisheries in Lake Charles, LA; and **Dr. Frank Chapman** of the University of Florida in Gainesville, Florida. **Dr. Kent Keenlyne**, Fisheries Assistance Office of the Service in Pierre, SD acts as a consultant to the Team.

The Recovery Team has met twice and is well on their way to developing a draft Recovery Plan, by October 1, 1991, as scheduled. A Recovery Plan is goal, objective, and task oriented. Goals, objectives, and tasks are identified, justified, and scheduled to support recovery of the species.

Little is known about the biology of the pallid sturgeon or specific causes for the species' decline. This lack of information makes it difficult to design an effective plan for recovery of the species. Much of the plan will focus on investigative and research needs to answer the unknowns. Once the causes of decline have been correctly identified, and a Recovery Plan

prepared and updated as more information becomes available, recovery may still take years to achieve because of social and economic obstacles that need to be overcome, including lack of sufficient funding. It is often difficult to reverse all the threats that have caused decades of population decline.

The short-term goal of recovery, as determined by the team, is to prevent extinction of the species. Initially this may be possible only through artificial propagation in hatcheries. Hatcheries can also artificially diversify genetic stocks for reintroduction.



Blue Sucker

Recovery Team Recommendations and Recovery Activities Underway

By: Mark Dryer

The Pallid Sturgeon Recovery Team met first in Bismarck, North Dakota, during February 1991 and secondly in Gretna, Nebraska during May.

In February, the Team established a short-term recovery goal of preventing extinction of the species. Once additional information on the species' status and needs is obtained, a measurable goal for downlisting or delisting can be determined. Establishment of self-sustaining populations will almost certainly be part of a long-term goal. With goals in mind of preventing species extinction and obtaining additional information on the species status and needs, the Team determined and justified recovery objectives and tasks, which if met, would meet recovery goals. Objectives include: 1) Develop and implement a pallid sturgeon propagation/genetics program to meet recovery goals, 2) Improve the database on pallid sturgeon population status and encourage information dissemination, 3) Obtain essential information on the life history and habitat requirements of the pallid sturgeon, 4) Protect pallid sturgeon populations and their habitat, 5) Promote the pallid sturgeon and inform the public of its status and uniqueness, and 6) Develop a long-term recovery goal with quantitative values. Many recovery tasks and sub-tasks were listed to meet recovery objectives. Recovery tasks emphasized research and management actions.

During the May Recovery Team meeting, Team members prioritized recovery tasks as either 1) necessary to prevent extinction, 2) necessary to prevent a significant decline in species population/habitat quality or, 3) other actions as necessary. This planning process will result in a logical/measurable approach or stepdown outline to achieve recovery. When completed in draft, the Recovery Plan, with stepdown outline, will be distributed for public and agency comments.

Many state fishery programs from throughout the pallid's range, as well as Federal agencies with multi-state responsibilities, are already implementing identified recovery tasks. Following is a brief update on some of the recovery activities already underway. Further information can be obtained by contacting the individual named following each update.

During June 1991, the Fishery Assistance Office of the Fish and Wildlife Service (Service) investigated improved techniques for capturing pallid sturgeon, and in association with this effort, attempted to obtain a population estimate on pallids within the Missouri River upstream of Lake Sakakawea. Also, investigators hoped to capture pallids in spawning condition. Pallids suspected to be in spawning condition would have been spawned on site and their fertilized eggs transported to Garrison Dam National Fish Hatchery for hatching, with the progeny later transported to Gavins Point National Fish Hatchery for rearing trials and broodstock retention. Two adult male pallids were captured. One was fitted with a radio/sonic transmitter and released to assist a Montana study and the other was

released to recover from cuts received from paddlefish snagging by sport fishermen. No fish were spawned. Contact Al Sandvol, Fish and Wildlife Service, Bismarck, ND (701) 250-4419.

The Fishery Assistance Office in Bismarck is again collecting shovelnose sturgeon from the Missouri River for propagation at Gavins Point National Fish Hatchery (NFH) and at Valley City NFH. Contact: Al Sandvol.

The Fish and Wildlife Enhancement Program (Enhancement) of the Fish and Wildlife Service in Bismarck will prepare and distribute an update on pallid sturgeon recovery activities. The update will be distributed three times each year to state agencies, federal agencies, conservation organizations, planning commissions, etc., within the pallid's range for the purpose of exchanging information and keeping interested parties informed. Contact: Mark Dryer, Fish and Wildlife Service, Bismarck, ND 701-250-4491.

Enhancement in Bismarck will maintain and update a database on historic and future reported pallid sturgeon catches and observations. Data include point of capture, capture date, and physical characteristics of the fish. Contact: Mark Dryer.

Enhancement in Bismarck will make recommendations on a suggested protocol (guidelines) for sampling and handling of pallid sturgeon. The guidelines will be sent to states and Service Regional Offices for their consideration when issuing permits for pallid sturgeon research activity. Contact: Mark Dryer.

The Army Corps of Engineers (Corps) in Omaha, Nebraska, has contracted with Montana Department of Fish, Wildlife and Parks to radio/sonic tag pallid sturgeon in Montana to monitor movements and record characteristics of habitats selected by pallids. Refer to the description of Montana activities for a results summary. Contact: Mark Harberg, Omaha, NE 402-221-7270.

The Corps is investigating the feasibility of advertising for bids on a pallid and shovelnose sturgeon genetics study to determine species and hybrid differentiation and genetic differentiation between pallid management stocks. Contact: Mark Harberg.

Missouri Department of Conservation personnel at Columbia, Missouri are working with commercial fishermen in the state to obtain pallid sturgeon captured incidental to their target species. To date, three gravid female shovelnose/pallid hybrids and three pallid males have been collected. They are being held at Blind Pony Hatchery near Sweet Springs, Missouri for propagation and future use as broodstock. Contact: Kim Graham, Missouri Department of Conservation, Columbia, MO 314-882-9880.

The North Dakota Game and Fish Department, through cooperative funding with the Service, is assisting the Service with their field efforts. The Department will be initiating a study this fall on pallid sturgeon distribution in the Missouri River below Garrison Dam. Contact: Greg Power, North Dakota Game and Fish Department, Bismarck, ND 701-221-6300.

The Bureau of Reclamation has contracted with the Montana Dept of Fish, Wildlife and Parks (DFWP) to conduct a pallid and shovelnose distribution investigation study on the Tongue River below the Tongue River Dam. Contact: Pat Clancey, Montana Department of Fish, Wildlife and Parks, Ft. Peck, MT 406-526-3471; or Phil Stewart, Bureau of Reclamation, RR1 Box 2004, Miles City, MT.

The Montana DFWP, through contract with the Corps, is radio/sonic tagging and tracking pallid sturgeon below Ft. Peck Dam in the Missouri River. Nine pallids have been tagged. However, the large size of the Missouri River with its deep holes, cut banks, and high conductivity, have made it difficult to consistently relocate the tagged fish. The Montana DFWP is also experimenting with radio/sonic tag implants in shovelnose sturgeon.

It is suspected the external tags are being shed. Contact: Pat Clancey.

The Montana DFWP, through cooperative funding with the Service, is investigating the population status and distribution of pallid sturgeon on the Missouri River upstream of Fort Peck Reservoir. Contact: Bill Gardner, P.O. Box 1088, Fort Benton, MT 406-662-5108.

The South Dakota Game, Fish and Parks Department and South Dakota State University, under cooperative funding with the Service, are conducting a study on behavior and habitat selection of pallid sturgeon in Lake Sharpe on the Missouri River, South Dakota. The fish are implanted with sonic and PIT tags. Project researchers have tagged seven pallids and are presently tracking three. The two most recent pallids tagged were collected on June 27, 1991 in the De Grey area of Lake Sharpe. These two fish were implanted with 50-month sonic transmitters. The PIT tags will stay with them for life. The transmitters used on the first five pallids had a life expectancy of 14 months. Since tracking was initiated in 1989, four of the transmitter batteries have quit functioning. Contact: James Riis, SD Game, Fish and Parks Dept., Pierre, SD 605-773-5535.

The states of South Dakota, North Dakota, and Louisiana have closed the sport and commercial harvest of all sturgeon to protect the pallid.

Education of the public on the pallid's plight continues and has occurred through publication of popular articles in State Conservation magazines from Montana, North Dakota, South Dakota, and Nebraska.

Report Catches of Pallid Sturgeon

By: Mark Dryer

Following is a listing of reported catches from throughout the species' range during the period January 1 to July 15. These catch records and all known pertinent information on capture location, length, weight, catch method, etc., will be recorded in the Pallid Catch Record Database maintained in Bismarck, North Dakota. A catch record report form is being developed to facilitate reporting of pallid catches. The form will receive wide distribution. Contact Mark Dryer 701-250-4491.

While fishing the Mississippi River, commercial fishermen in Missouri have captured 4 pallids and 3 pallid/shovelnose hybrids. Two of the males and 1 of the hybrids have died as a result of injuries from netting.

Sport fishermen fishing the Missouri River near the mouth of the Platte River in Nebraska have caught 3 pallids. One was released, two were transported to Blind Pony Hatchery in Missouri.

Sport fishermen fishing for walleye on the Missouri River below Garrison Dam in North Dakota have caught 3 pallids.

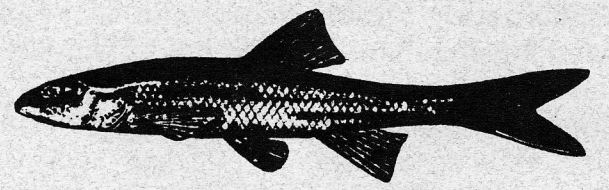
Fishery biologists netting for sexually mature pallids in North Dakota near the Yellowstone and Missouri River confluence have caught 2 adult male pallids.

Fishermen snagging paddlefish on the Yellowstone and Missouri Rivers in Montana and North Dakota, snagged and released three pallids this spring.

In South Dakota, fishery biologists caught two pallids on June 27. One of the pallids was a 22 lb. male and the other was a 7 lb. female. Another pallid weighing 11 lbs. was being tracked in the vicinity, but was not caught in the nets. Habitat variables at collection locations are being measured to determine habitat preference.

A commercial fisherman, fishing for shovelnose sturgeon for the Louisiana Department of Wildlife and Fisheries, captured seven pallids, two pallid/shovelnose hybrids and numerous shovelnose, in one set near the diversion to a large hydroelectric power plant. The fisherman did not realize he had pallids, an endangered species, in his catch. The fish were handled

roughly, and thus, were stressed before Louisiana officials were contacted. Despite efforts by officials to reduce stress and transport the pallids to a hatchery for future broodstock, the fish died. The pallids are preserved for environmental contaminant, genetics, fecundity, age/growth, and food habits analysis.



Sturgeon Chub

Other Missouri River and Mississippi River Basin Fish Are Rare

By: Selena Werdon

The pallid sturgeon is not the only Missouri River and Mississippi River Basin fish that has shown indications of population decline. So have the blue sucker, sicklefin chub, sturgeon chub, and paddlefish. These species' big river habitat characteristics have been drastically altered over the past 40 years. Reservoir construction and channelization have altered or removed the majority of their natural habitat. Fishery biologists should begin (or continue) documenting catches of these species because it will be valuable for future status work.

PHOTO: Montana DFWP employee holding 32 lb. male pallid sturgeon with radio/sonic tag.
(*Photo by Steve Krentz*)